

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and the following remarks, is respectfully requested.

Claims 1-25 are pending in this application. Claims 1, 6, 16 and 25 are independent claims. Claims 1, 3, 6, 16 and 25 are amended. No claims are cancelled or added by this Amendment.

Applicants note with appreciation the Examiner's indication that certified copies of all priority documents have been received by the United States Patent and Trademark Office (USPTO) and that the drawings filed on February 19, 2004 have been accepted by the USPTO.

Rejections under 35 U.S.C. § 101

Claims 16-24 stand rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. In particular, the Examiner asserts that the features of claims 16-24, prior to the amendments shown in the preceding section, did not impart functionality to a computer or computing device and thus, merely amount to **non-functional** descriptive material. Claims 16-24 are amended to overcome this rejection as detailed below and clarify that the computer-readable medium of amended claim 16 is directed toward **functional** descriptive material.

The Examiner appears to be under the mistaken impression that only computer programs recorded on a computer readable medium constitute statutory subject matter. This is simply incorrect. MPEP § 2106.01 states the following.

In this context, "functional descriptive material" consists of **data structures** and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to

support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited music, literary works and a compilation or mere arrangement of data.

Applicants submit that data structures recorded on a computer readable medium may constitute statutory subject matter.

MPEP § 2106.01 further states:

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, [In re Warmerdam,] 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

In view of the above, a more detailed discussion of In re Lowry is warranted.

Claim 1 of In re Lowry recited:

1. A memory for storing data for access by an application program being executed on a data processing system, comprising:

a data structure stored in said memory, said data structure including information resident in a database used by said application program and including; (emphasis added)

a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from

said database;

a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects;

a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and

an apex data object stored in said memory and having no being-held relationship with any of said attribute data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

In finding that the printed matter cases have no factual relevance to the claims at issue in

In re Lowry, the court stated:

Nor are the data structures analogous to printed matter. Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.

In re Lowry, at 1034.

The court further noted:

Indeed, Lowry does not seek to patent the Attributive data model in the abstract. Nor does he seek to patent the content of information resident in a database. **Rather, Lowry's data structures impose a physical organization on the data.** (emphasis added)

In re Lowry, at 1034.

And, on the issue of abstract ideas, the Federal Circuit in In re Lowry noted:

More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation. (emphasis added)

In re Lowry, at 1035.

The claims at issue (e.g., claim 1) are analogous to the claims in In re Lowry, and as such are clearly statutory subject matter. Unlike the claims of In re Warmerdam, the claims of the subject application do not recite mathematical equations, or the generation of data structures using mathematical equations. Instead, as in In re Lowry, claim 1 recites a computer readable medium storing a specific data structure that dictates how application programs reproduce data. Accordingly, because the computer readable medium recited in claim 16 stores a data structure for managing data stored on the computer-readable medium having at least one main video image, at least one graphic image file, and at least one graphic link information file containing information to link a plurality of graphic images with the at least one main video image, claim 16 is believed to be directed towards a computer-readable medium storing functional descriptive material. In the language of MPEP §2106.01 regarding functional descriptive material, claim 16 is directed to a claimed computer-readable medium storing a data structure defining structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

In light of the above, Applicants respectfully request that the rejection of amended independent claim 16, and claims 17-24 depending therefrom, under 35 U.S.C. § 101 be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1, 4, 5, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kim et al. (U.S. Patent No. 6,754,435, herein Kim) in view of Burgess et al. (U.S. Patent No. 7,110,137, herein Burgess). Claims 6, 16, 2, 3, 15, 24, 8, 18, 9, 19, 10, 20, 11, 21, 12, 13, 14, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kim and Burgess as applied to claims 1, 4, 5 and 25 above and further in view of Ochiai et al. (U.S. Publication No. 2005/0180734, herein Ochiai). Claims 7 and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kim, Burgess and Ochiai, and further in view of Russ (U.S. Patent No. 5,446,857). Applicants respectfully traverse these rejections as detailed below.

Kim is directed to a method of creating caption-based search information for moving picture data of video titles recorded on a disc storage medium and performing a search of a moving picture data stream by using the caption-based video search information in a video disc reproduction apparatus like a DVD player. As indicated by the emphasis in the previous sentence, many of the features described in Kim are related to the creation of caption-based search information and a searching function implemented by a video disc reproduction apparatus. In rejecting independent claims 1 and 25, the Examiner cites “(e.g., figure 14, column 6, lines 11-40, the sub-picture data with the video data as shown in FIG. 14, the PTT table links the video title and the corresponding sub-picture, or caption data, also see column 5,

lines 45-50, column 4, lines 53-56)".¹ Similarly, when rejecting independent claims 6 and 16, the Examiner cites "column 5, lines 17-22, and column 7, lines 24-41, the 'sub-picture search table' which corresponds to the graphic link information as claimed, shown in FIG. 12 as stored in the hard disc 40 as a file."² As such, the Examiner is reading one or more of the tables in FIG. 12 illustrating moving picture search information as teaching the "graphic link information" recited in each of the independent claims.

However, Applicants note that column 5, lines 17-22 of Kim states the following:

On completion of reading all information required, the DVD player is entered into an operation mode in which a caption-based moving picture data search information, or so-called sub-picture search table shown in FIG. 12 is created based on the data stored in volume structure, file structure and navigation data (as 17). (Emphasis added).

Further, column 4, lines 59-62 of Kim states:

A method of creating caption-based moving picture data search information embodied in the DVD player of FIG. 9 is described below in detail with reference to the flow charts of FIGs. 10 and 11.

In light of the above, Applicants submit the tables shown in FIG. 12 are stored in a memory 12 of a DVD player as shown in FIG. 9, whereas the actual image data is stored on the DVD. This appears consistent with the object of Kim which is to provide caption-based search information using a DVD player. Applicants submit that the tables shown in FIG. 12 are not saved on the same computer-readable medium as the image data.

In light of the above, Applicants respectfully submit that Kim at least fails to disclose, teach or suggest a "method of recording graphic data on a computer-readable medium, comprising: (a) recording a plurality of graphic images having different color depths and pertaining to a main video image separate from the main video image on the computer-readable medium; and (b) recording graphic link information on the computer-readable medium to link

¹ Office Action mailed January 3, 2008, page 4, lines 3-6.

the plurality of graphic images with the main video image for overlaying the main video image with the plurality of graphic images,” as recited in claim 1 or the somewhat similar features of independent claim 6, 16 and 25.

Burgess is directed to a system or process for generating and using mixed raster content files (MRC). A review of FIG. 2 and FIG. 4 of Burgess indicates that Burgess is directed towards creating an MRC file without requiring a separation process 303 shown in the prior art of FIG. 2. Applicants submit that Burgess fails to cure the deficiencies of Kim discussed above with respect to independent claims 1, 6, 16 and 25.

Therefore, Applicants respectfully request the rejection of independent claims 1 and 25, as well as claims 4 and 5 depending therefrom under 35 U.S.C. § 103(a) as unpatentable over Kim in view of Burgess be withdrawn.

Further, as previously indicated, amended independent claim 6 and 16 include features somewhat similar to amended independent claims 1 and 25 discussed above, and thus the combination of Kim and Burgess fails to disclose, teach or suggest these similar features. Applicants note that Ochiai fails to cure the deficiencies of Kim and Burgess with respect to amended independent claims 6 and 16 and thus, Applicants submit that amended independent claim 6 and 16 are allowable over the combination of Kim, Burgess and Ochiai for at least the same reasons that amended independent claims 6 and 16 are allowable over Kim and Burgess.

Therefore, Applicants respectfully request the rejection of independent claims 6 and 16, as well as all claims depending therefrom, under 35 U.S.C. § 103(a) be withdrawn.

² Office Action mailed January 3, 2008, page 5, lines 9-10.

Still further, Applicants note that claims 7 and 17 depend from amended independent claims 6 and 16. Further, Applicants submit that Russ fails to cure the deficiencies of Kim, Burgess and Ochiai discussed above with respect to amended independent claims 6 and 16.

Therefore, Applicants respectfully request the rejection of claims 7 and 17 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-25 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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